AMENDMENTS TO THE CLAIMS:

Claim 1. (Currently Amended) A purified mutated anthrax toxin B moiety, wherein said mutated B moiety comprises an amino acid sequence that is 95% identical to the sequence of SEQ ID NO:8, and includes a D425K mutation, wherein said mutated B moiety has inhibited pore-forming ability relative to a naturally-occurring B moiety of an anthrax toxin.

Claims 2-5. (Canceled).

Claim 6. (Previously Presented) An immunogenic composition comprising a purified anthrax toxin B moiety in a pharmaceutically acceptable carrier, wherein said B moiety comprises SEQ ID NO:8.

Claims 7-42 (Canceled).

Claim 43 (Withdrawn): The vaccine composition of claim 42, wherein said anthrax protective antigen fragment is the C-terminal 63 kDa tryptic fragment of anthrax protective antigen.

Claim 44 (Withdrawn): The vaccine composition of claim 42, wherein said anthrax protective antigen fragment has a deletion of the amino acids that form the transmembrane pore.

Claims 45-48 (Canceled).

Claim 49 (Withdrawn): The vaccine composition of claim 47, wherein said pore-forming binary A-B toxin is *Clostridium perfringens* toxin, and said corresponding mutation is D425K.

Claims 50-51 (Canceled).

Claim 52. (Currently Amended) A purified mutated anthrax toxin B moiety, wherein said mutated B moiety comprises an amino acid sequence that is 95% identical to the sequence of SEQ ID NO:10 and includes a K397D + D425K double mutation in said B moiety, wherein said mutated B moiety has inhibited pore-forming ability relative to a naturally-occurring B moiety of an anthrax toxin.

Claim 53. (Currently Amended) A purified mutated anthrax toxin B moiety, wherein said mutated B moiety comprises an amino acid sequence that is 95% identical to the sequence of SEQ ID NO:11 and includes a K395D + K397D + D425K + D426K quadruple mutation in said B moiety, wherein said mutated B moiety has inhibited pore-forming ability relative to a naturally-occurring B moiety of an anthrax toxin.

Claim 54. (Currently Amended) A purified mutated anthrax toxin B moiety, wherein said mutated B moiety comprises an amino acid sequence that is 95% identical to the sequence of SEQ ID NO:13 and includes a K397D + D425K + F427A triple mutation in said B moiety, wherein said mutated B moiety has inhibited pore-forming ability relative to a naturally-occurring B moiety of an anthrax toxin.

Claim 55. (Currently Amended) A purified mutated anthrax toxin B moiety, wherein said mutated B moiety comprises an amino acid sequence that is 95% identical to the sequence of SEQ ID NO:16 and includes a K397D + D425K + F427A + deletion of amino acids 302-325 (ΔD2L2) quadruple mutation in said B moiety, wherein said mutated B moiety has inhibited pore-forming ability relative to a naturally-occurring B moiety of an anthrax toxin.

Claim 56. (Previously Presented) A purified anthrax toxin B moiety, wherein said B moiety comprises SEQ ID NO:8.

Claim 57. (Previously Presented) A purified anthrax toxin B moiety, wherein said B moiety comprises SEQ ID NO:10.

Claim 58. (Previously Presented) A purified anthrax toxin B moiety, wherein said B moiety comprises SEQ ID NO:11.

Claim 59. (Previously Presented) A purified anthrax toxin B moiety, wherein said B moiety comprises SEQ ID NO:13.

Claim 60. (Previously Presented) A purified anthrax toxin B moiety, wherein said B moiety comprises SEQ ID NO:16.

Claim 61. (Previously Presented) An immunogenic composition comprising a purified anthrax toxin B moiety in a pharmaceutically acceptable carrier, wherein said B moiety comprises SEQ ID NO:10.

Claim 62. (Previously Presented) An immunogenic composition comprising a purified anthrax toxin B moiety in a pharmaceutically acceptable carrier, wherein said B moiety comprises SEQ ID NO:11.

Claim 63. (Previously Presented) An immunogenic composition comprising a purified anthrax toxin B moiety in a pharmaceutically acceptable carrier, wherein said B moiety comprises SEQ ID NO:13.

Claim 64. (Previously Presented) An immunogenic composition comprising a purified anthrax toxin B moiety in a pharmaceutically acceptable carrier, wherein said B moiety comprises SEQ ID NO:16.

Claim 65. (New) A purified polypeptide comprising an amino acid sequence that is 95% identical to the sequence of SEQ ID NO:21, and includes a mutation at amino acid residue 425, wherein said polypeptide lacks pore-forming ability or provokes an immune response when introduced into a subject.

Claim 66. (New) An immunogenic composition comprising a purified polypeptide in a pharmaceutically acceptable carrier, wherein said polypeptide comprises an amino acid sequence that is 95% identical to the sequence of SEQ ID NO:21, and

includes a mutation at amino acid residue 425, wherein said polypeptide lacks pore-forming ability or provokes an immune response when introduced into a subject.

67. (New) The polypeptide of claim 65, wherein said polypeptide lacks pore-forming ability.

68. (New) The polypeptide of Claim 67, wherein said mutation at amino acid residue 425 is selected from the group consisting of D425A, D425N, D425E, and D425K.

69. (New) The polypeptide of Claim 67, wherein said mutation at amino acid residue 425 is D425K.

70. (New) The polypeptide of Claim 68, wherein said polypeptide further includes a mutation at amino acid residue 397.

71. (New) The polypeptide of Claim 70, wherein said mutation at amino acid residue 397 is selected from the group consisting of K397A, K397D, K397C, and K397Q.

72. (New) The polypeptide of Claim 70, wherein said mutation at amino acid residue 397 is K397D.

73. (New) The polypeptide of Claim 70, wherein said polypeptide further includes a mutation of at least one of amino acid residues 395 and 426.

74. (New) The polypeptide of Claim 73, wherein said polypeptide includes a K395D mutation and a D426K mutation.

75. (New) The polypeptide of Claim 72, wherein said polypeptide includes an F427A mutation.

76. (New) The polypeptide of Claim 75, wherein said polypeptide includes a deletion of amino acid residues 302 through 325.

77. (New) The composition of Claim 66, wherein said polypeptide lacks pore-forming ability.

78. (New) The composition of Claim 77, wherein said mutation at amino acid residue 425 is selected from the group consisting of D425A, D425N, D425E, and D425K.

79. (New) The composition of Claim 78, wherein said mutation at amino acid residue 425 is D425K.

80. (New) The composition of Claim 79, wherein said polypeptide further includes a mutation at amino acid residue 397.

81. (New) The composition of Claim 80, wherein said mutation at amino acid residue 397 is selected from the group consisting of K397A, K397D, K397C, and K397Q.

82. (New) The composition of Claim 81, wherein said mutation at amino acid residue 397 is K397D.

83. (New) The composition of Claim 82, wherein said polypeptide further includes a mutation of at least one of amino acid residues 395 and 426.

84. (New) The composition of Claim 83, wherein said polypeptide includes a K395D mutation and a D426K mutation.

85. (New) The composition of Claim 81, wherein said polypeptide includes an F427A mutation.

86. (New) The composition of Claim 85, wherein said polypeptide includes a deletion of amino acid residues 302 through 325.

87. (New) A purified fusion polypeptide comprising an amino acid sequence that is 95% identical to the sequence of SEQ ID NO:21, and includes a mutation at amino acid residue 425, wherein said fusion polypeptide lacks pore-forming ability or provokes an immune response when introduced into a subject.

88. (New) The fusion polypeptide of Claim 87, wherein said polypeptide lacks pore-forming ability.

89. (New) The fusion polypeptide of Claim 88, wherein said mutation at amino acid residue 425 is selected from the group consisting of D425A, D425N, D425E, and D425K.

90. (New) The fusion polypeptide of Claim 89, wherein said mutation at amino acid residue 425 is D425K.

91. (New) The fusion polypeptide of Claim 89, wherein said polypeptide further includes a mutation at amino acid residue 397.

92. (New) The fusion polypeptide of Claim 91, wherein said mutation at amino acid residue 397 is selected from the group consisting of K397A, K397D, K397C, and K397Q.

93. (New) The fusion polypeptide of Claim 92, wherein said mutation at amino acid residue 397 is K397D.

94. (New) The fusion polypeptide of Claim 93, wherein said polypeptide further includes a mutation of at least one of amino acid residues 395 and 426.

95. (New) The fusion polypeptide of Claim 94, wherein said polypeptide includes a K395D mutation and a D426K mutation.

96. (New) The fusion polypeptide of Claim 93, wherein said polypeptide includes an F427A mutation.

97. (New) The fusion polypeptide of Claim 96, wherein said polypeptide includes a deletion of amino acid residues 302 through 325.

98. (New) An immunogenic composition comprising a purified fusion polypeptide in a pharmaceutically acceptable carrier, wherein said fusion polypeptide comprises an amino acid sequence that is 95% identical to the sequence of SEQ ID NO:21, and includes a mutation at amino acid residue 425, wherein said polypeptide lacks pore-forming ability or provokes an immune response when introduced into a subject.

99. (New) The composition of Claim 98, wherein said polypeptide lacks pore-forming ability.

100. (New) The composition of Claim 99, wherein said mutation at amino acid residue 425 is selected from the group consisting of D425A, D425N, D425E, and D425K.

101. (New) The composition of Claim 100, wherein said mutation at amino acid residue 425 is D425K.

102. (New) The composition of Claim 100, wherein said fusion polypeptide further includes a mutation at amino acid residue 397.

103. (New) The composition of Claim 102, wherein said mutation at amino acid residue 397 is selected from the group consisting of K397A, K397D, K397C, and K397Q.

104. (New) The composition of Claim 103, wherein said mutation at amino acid residue 397 is K397D.

105. (New) The composition of Claim 104, wherein said fusion polypeptide further includes a mutation of at least one of amino acid residues 395 and 426.

106. (New) The composition of Claim 105, wherein said fusion polypeptide includes a K395D mutation and a D426K mutation.

107. (New) The composition of Claim 104, wherein said fusion polypeptide includes an F427A mutation.

108. (New) The composition of Claim 107, wherein said fusion polypeptide includes a deletion of amino acid residues 302 through 325.

109. (New) A method of inducing an immune response in a mammal by administering to said mammal an immunogenic composition comprising a purified

polypeptide in a pharmaceutically acceptable carrier, wherein said polypeptide comprises an amino acid sequence that is 95% identical to the sequence of SEQ ID NO:21, and includes a mutation at amino acid residue 425, wherein said polypeptide lacks pore-forming ability or provokes an immune response when introduced into a subject.

110. (New) The method of Claim 109, wherein said polypeptide lacks pore-forming ability.

111. (New) The method of Claim 110, wherein said mutation at amino acid residue 425 is selected from the group consisting of D425A, D425N, D425E, and D425K.

112. (New) The method of Claim 111, wherein said mutation at amino acid residue 425 is D425K.

113. (New) The method of Claim 111, wherein said polypeptide further includes a mutation at amino acid residue 397.

114. (New) The method of Claim 113, wherein said mutation at amino acid residue 397 is selected from the group consisting of K397A, K397D, K397C, and K397Q.

115. (New) The method of Claim 114, wherein said mutation at amino acid residue 397 is K397D.

116. (New) The method of Claim 115, wherein said polypeptide further includes a mutation of at least one of amino acid residues 395 and 426.

117. (New) The method of Claim 116, wherein said polypeptide includes a K395D mutation and a D426K mutation.

118. (New) The method of Claim 115, wherein said polypeptide includes an F427A mutation.

119. (New) The method of Claim 118, wherein said polypeptide includes a deletion of amino acid residues 302 through 325.